UC864-K Product Description

UC864-K
80341ST10055a Rev. 0 -08/05/2009

Making machines talk.

APPLICABILITY TABLE

PRODUCT	PART NUMBER
UC864-K	4990250048

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1 Overview

The **Telit UC864-K module** are small, lightweight, low power consumption and RoHS compliant devices that allow digital communication services wherever a WCDMA, HSDPA network is present.

The **UC864-K** is a low cost connector-less best solution for medium to high quantity projects.

The **UC864-K** is provided with an 80 pin Molex board to board connector and a 50 Ohm Murata RF connector.

The **UC864-K** module includes features like HSDPA 7.2Mbps, Voice, Circuit Switched Data transfer, Fax, Phonebook and SMS support, embedded TCP/IP stack and battery charging capabilities.

The **UC864-K** is specifically designed and developed by **Telit** for OEM usage and dedicated to portable data, voice and telemetric applications such as:

- **Telemetry and Telecontrol (SCADA applications)**
- **Security systems**
- **Automated Meter Reading (AMR)**
- **Vending machines**
- **POS terminals**
- **PDAs and Mobile Computing**
- **Phones and Payphones**
- **Automotive and Fleet Management applications**
- **Battery powered applications needing a battery charger**
- **Return channel for digital broadcasting**

From the interface point of view, the **UC864-K** provides the following:

- **USB2.0 for AT commands**
  - **Baud rate up to 12 Mbps**
- **Full RS232 UART, CMOS level (ASC0) interface for AT commands:**
  - **Fixed baud rate up to 230 Kbps**
- **SIM card interface, 1.8 / 3 volts with auto-detection and hot insertion**
- **22 x GPIO ports (max)**
- **3 x A/D converters**
- **1 x D/A converter**
- **1 x buzzer output**
- **1 x single led supply output**

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In order to meet the competitive OEM and vertical market stringent requirements, Telit supports its customers with a dedicated Support Policy with:

- **Telit Evaluation Kit EVK2** to help you develop your application;
- A Website with all updated information available;
- An high level specialist technical support to assist you in your development;

For more updated information concerning product Roadmap, availability, technical characteristics, commercial and other issues, please check on the Telit website www.telit.com > Products (UMTS/HSDPA) > UC864 Family.

NOTE: Some of the performances of the **Telit modules** depend on SW version installed on the module itself.
The **Telit modules** SW group is continuously working in order to add new features and improve the overall performances.
The **Telit modules** are easily upgradeable by the developer using the **Telit** Flash Programmer.

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1.1 UC864-K Product Specification

ITEM	FEATURE
	UC864-K
Air interface	▪ Single-Band UMTS/HSDPA 2100MHz
Data Service	HSDPA UL 384kbps, DL 7.2Mbps WCDMA UL/DL 384kbps
Size	36.2(L)X30(W)X4.8(T)
Interface	USB 2.0(AT command etc), 80 Pin Board to Board connector, SIM/RF connector
Antenna	External Antenna
Memory	64MB SDRAM and 64MB Flash memory
Voice	▪ Vocoder - UMTS(Static/Dynamic AMR) ▪ Supplementary Service
Message	SMS (MO/MT)
SIM Card	Support 1.8 and 3V UICC
Security	▪ UMTS - Encryption(UEA1), integrity UIA ▪ IMEI Security, SIM lock
Internet Protocols	▪ TCP/IP, UDP/IP, PPP protocol, V42Bis data compression
Applications	▪ SVD(Simultaneous Voice and Data) ▪ SIM PBM(Phone Book Management) ▪ FDN dialing number ▪ Service dialing number ▪ Enhanced operator name string

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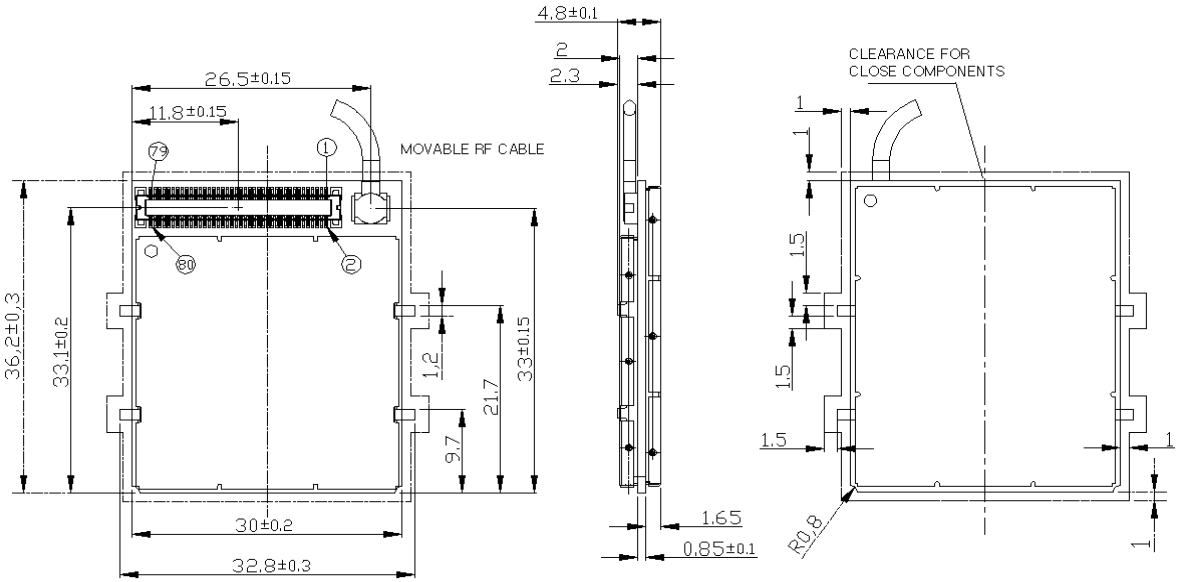
2 General Product Description

2.1 Dimensions

Dimensions	UC864-K
Length(mm)	36.2
Width(mm)	30
Thickness(mm)	4.8

UC864-K drawing



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2.2 Weight

Weight	
UC684-K	**10 gr.**

2.3 Environmental requirements

The **Telit UC864-K** module is compliant with the applicable 3gpp reference documentation TS 25.101 Release 2004-03.

2.3.1 Temperature range

	UC864-K	Note
Operating temperature	-20 ~ +55°C	The module is functional in all the temperature range, and it fully meets the ETSI specifications.
	-30 ~ +80°C	The module is functional in all the temperature range. Temperatures outside the range –20°C ÷ +55°C, might slightly deviate from ETSI specifications.
Temperature in not functional conditions	-40 ~ +85°C	

* Functional: the module is able to make and receive voice calls, data calls, SMS and make data traffic..

2.3.2 Vibration Test (non functional)

- 10 ~12Hz ASD = 1.92m 2 /s 3
- 12 ~ 150Hz –3dB/oct

2.3.3 RoHS compliance

As a part of Telit corporate policy regarding environmental protection, the **UC864-K** comply with the RoHS (Restriction of Hazardous Substances) directive of the European Union (EU Directive 2002/95/EG).

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2.4 Operating Frequency

The operating frequencies in WCDMA/HSDPA are conformed to the WCDMA and 3gpp specifications.

Mode	Freq. TX (MHz)	Freq. RX (MHz)	Channels (ARFC)	TX – RX offset
WCDMA-2100	1922.4-1977.6	2112.4-2167.6	Tx : 9612-9888 Rx : 10562-10838	190MHz

2.5 Transmitter output power

WCDMA2100
The **Telit UC864-K** transceiver module in WCDMA-2100 operating mode is **class 3** in accordance with the specifications which determine the nominal 0.25W peak RF power (+24dBm) on 50 Ohm.

2.6 Reference sensitivity

WCDMA2100
The sensitivity of the **Telit UC864-K** module according to the specifications for the class 3 portable terminals WCDMA2100 is **–108.2 dBm** typical in normal operating conditions.

2.7 Antennas

2.7.1 WCDMA Antenna

The antenna that the customer chooses to use should fulfill the following requirements:

Frequency range	WCDMA Band I
Bandwidth	250 MHz in WCDMA2100 band

For further information please refer to the UC864-K Hardware User Guide.

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2.7.2 UC864-K Antenna connectors

2.7.2.1 WCDMA Applications

The **UC864-K** module is equipped with a 50 Ohm RF connector from Murata, GSC type P/N **MM9329-2700B**. The suitable counterpart is Murata **MXTK92** Type or **MXTK88** Type.

2.8 Supply voltage

The external power supply must be connected to VBATT signal and must fulfill the following requirements:

Nominal operating voltage	3.8 V
Operating voltage range	3.4 V – 4.2 V

NOTE: Operating voltage range must never be exceeded; care must be taken in order to fulfill min/max voltage requirements.

2.9 WCDMA Power consumption

The typical current consumption of the **Telit UC864-K** is:

Power off current (typical)	< 26 μA;
Stand–by current (WCDMA Idle)	< 22mA (<4.1mA using command AT+CFUN=5)
Operating current in WCDMA voice channel	< 690 mA @ worst network conditions
Operating current in WCDMA data channel	< 680 mA @ worst network conditions
Operating current in HSDPA channel	< 730 mA @ worst network conditions

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2.10 Embodied Battery charger

The battery charger is suited for 3.7V Li-Ion rechargeable battery (suggested capacity 500-1000mAH). The Charger needs only a CURRENT LIMITED power source input and charges the battery directly through VBATT connector pins.

Battery charger input pin	CHARGE
Battery pins	VBATT, GND
Battery charger input voltage min	5.0 V
Battery charger input voltage typ	5.5 V
Battery charger input voltage max	7.0 V
Battery charger input current max	400mA
Battery type	Li-Ion rechargeable

NOTE: If embodied battery charger is used, then a LOW ESR capacitor of at least 100µF must be mounted in parallel to VBATT pin.
NOTE: when power is supplied to the CHARGE pin, a battery must always be connected to the VBATT pin of the UC864-K.

2.11 User Interface

The user interface is managed by AT commands specified on the ITU-T V.250, 3gpp 27.007 and 27.005 specifications.

2.11.1 Speech Coding

The **UC864-K** voice codec supports the following rates:

- WCDMA
  - Adaptive Multi Rate

2.11.2 SIM Reader

The **UC864-K** supports R5 and R99 3gpp TS 31.114 - USIM 1.8V and 3V ONLY with an external SIM connector. For 5V SIM operation an external level translator can be added.

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2.11.3 SMS

The **UC864-K** supports the following SMS types:

- Mobile Terminated (MT) class 0 – 3 with signaling of new incoming SMS, SIM full, SMS read
- Mobile Originated class 0 – 3 with writing, memorize in SIM and sending
- Cell Broadcast compatible with CB DRX with signaling of new incoming SMS.

2.11.4 Real Time Clock and Alarm

The **UC864-K** supports the Real Time Clock and Alarm functions through AT commands, furthermore an alarm output pin (GPIO6) can be configured to indicate the alarm with a hardware line output. Furthermore the Voltage Output of the RTC power supply is provided so that a backup capacitor can be added to increase the RTC autonomy.

2.11.5 Data/fax Transmission

The **Telit UC864-K** supports:

- WCDMA/HSDPA category 8, MS Class A (Simultaneous Voice and Data)
- Fax service, Class 1 Group 3.

2.11.6 Local security management

The local security management can be done with the lock of Universal Subscriber Identity module (USIM), and security code request at power–up.

2.11.7 Call control

The call cost control function is supported.

2.11.8 Phonebook

This function allows the storing of the telephone numbers in SIM memory. The capability depends on SIM version and embedded memory.

2.11.9 Characters management

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The **Telit UC864-K** supports the IRA characters set (International Reference Alphabet), in TEXT and PDU mode.

2.11.10 SIM related functions

Activation and deactivation of the numbers stored in phone book FDN, ADN and PINs are supported. Extension at the PIN2 for the PUK2 insertion capability for lock condition is supported.

2.11.11 Call status indication

The call status indication by AT commands is supported.

2.11.12 Automatic answer (Voice, Data or FAX)

After a specified number of rings, the module will automatically answer with a beep. The user can set the number of rings by means of the command ATS0=<n>.

2.11.13 Supplementary services (SS)

The following supplementary services are supported:

- Call Barring,
- Call Forwarding,
- Calling Line Identification Presentation (CLIP),
- Calling Line Identification Restriction (CLIR),
- Call Waiting, other party call Waiting Indication,
- Call Hold, other party Hold / Retrieved Indication,
- Closed User Group supplementary service (CUG),
- Advice of Charge,
- Unstructured SS Mobile Originated (MO)

2.11.14 Acoustic signaling

The acoustic signaling of the **UC864-K** on the selected acoustic device are the following:

- Call waiting;
- Ringing tone;
- SMS received tone;

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- Busy tone;
- Power on/off tone;
- Off Hook dial tone;
- Congestion tone;
- Connected tone;
- Call dropped;
- No service tone;
- Alarm tone.

2.11.15 Buzzer output

The General Purpose I/O pin GPIO7 can be configured to output the BUZZER output signal, with only an external MOSFET/transistor and a diode a Buzzer can be directly driven.
The ringing tone and the other signaling tones can be redirected to this Buzzer output with a specific AT command.

2.11.16 RF Transmission Monitor

As alternate function of the GPIO5, the **UC864-K** provides the RF transmission monitor. When the alternate function is activated, the pin of GPIO5 changes to HIGH every time the module transmits an RF signal and remains HIGH for the duration of the transmission sequence

2.12 Logic level specifications

Where not specifically stated, all the interface circuits work at 2.6V CMOS logic levels. To get more detailed information about the logic level specifications used in the **Telit UC864-K** interface circuits please consult the **UC864-K** Hardware User Guide.

2.12.1 Reset signal

Signal	Function	I/O	UC864-K pin
RESET	Phone reset	I/O	54

RESET is used to reset the **UC864-K**. Whenever this signal is pulled low; the **UC864-K** is reset. When the device is reset it stops any operation and after the release of the reset it is unconditionally rebooted, without doing any detach operation from the network where it is registered to. This behavior is not like a proper shut down because any device is requested to issue a detach request on turn off. For this reason the Reset signal must not be used to normally shutting down the device, but only as an emergency exit in the rare case the device remains stuck waiting for some network response.

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The RESET is internally controlled on start-up to achieve always a proper power-on reset sequence, so there's no need to control this pin on start-up. It may only be used to reset a device already on that is not responding to any command.

***NOTE**: do not use this signal to power off the Telit UC864-K module. Use the ON_OFF* signal to perform this function or the AT#SHDN command. (To turn off UC864-K, first of all, you MUST cut off supplying power to the USB_VBUS, or the module does not turn off).*

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2.13 Audio levels specifications

The audio of the **UC864-K** is organized into two main paths:

- internal path (called also MT)
- external path (called also HF)

These two paths are meant respectively for handset and headset/hands-free use. The **UC864-K** has a built in echo canceller and a noise suppressor, tuned separately for the two audio paths; for the internal path the echo canceller parameters are suited to cancel the echo generated by a handset, while for the external audio path they are suited for a hands-free use.
For more information on the audio refer to the **UC864-K** Hardware User Guide.

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2.14 Converters

2.14.1 ADC Converter

The on board ADCs are 8-bit converter. They are able to read a voltage level in the range of 0 - 2 volts applied on the ADC pin input, store and convert it into 8 bit word.

	Min	Max	Units
Input Voltage range	0	2,0	Volt
AD conversion	-	8	bits
Resolution	-	< 10.2	mV

2.14.2 DAC Converter

The on board DAC is a 16-bit converter, able to generate an analogue value based on a specific input in the range from 0 up to 65535 but recalibrated in the range from 0 to 1023. However, an external low-pass filter is necessary. See the HW User Guide for the details.

	Min	Max	Units
Voltage range (filtered)	0	2,6	Volt
Range	0	1023	Steps

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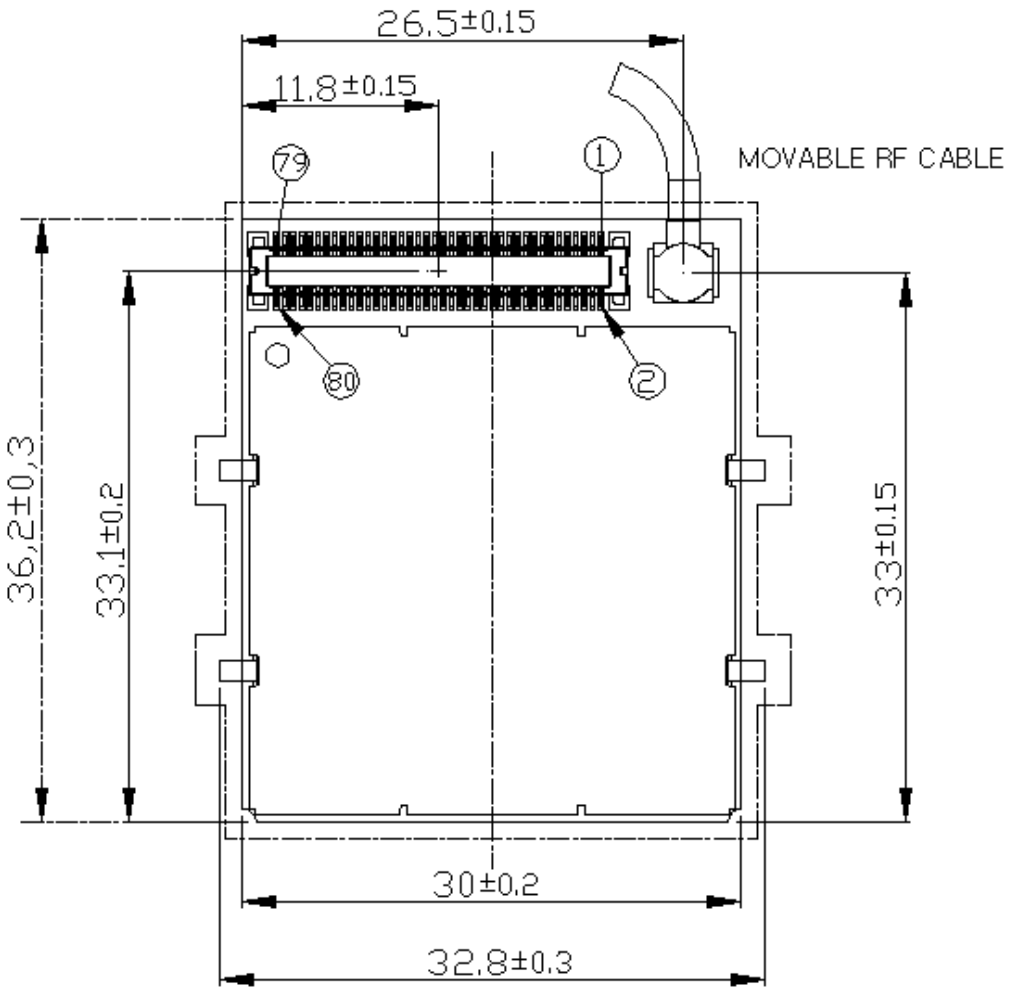
2.15 Mounting UC864-K on your board

2.15.1 UC864-K

The position of the Molex board to board connector and the pin 1 are shown in the following picture.



NOTE: metal tabs present on UC864-K should be connected to GND

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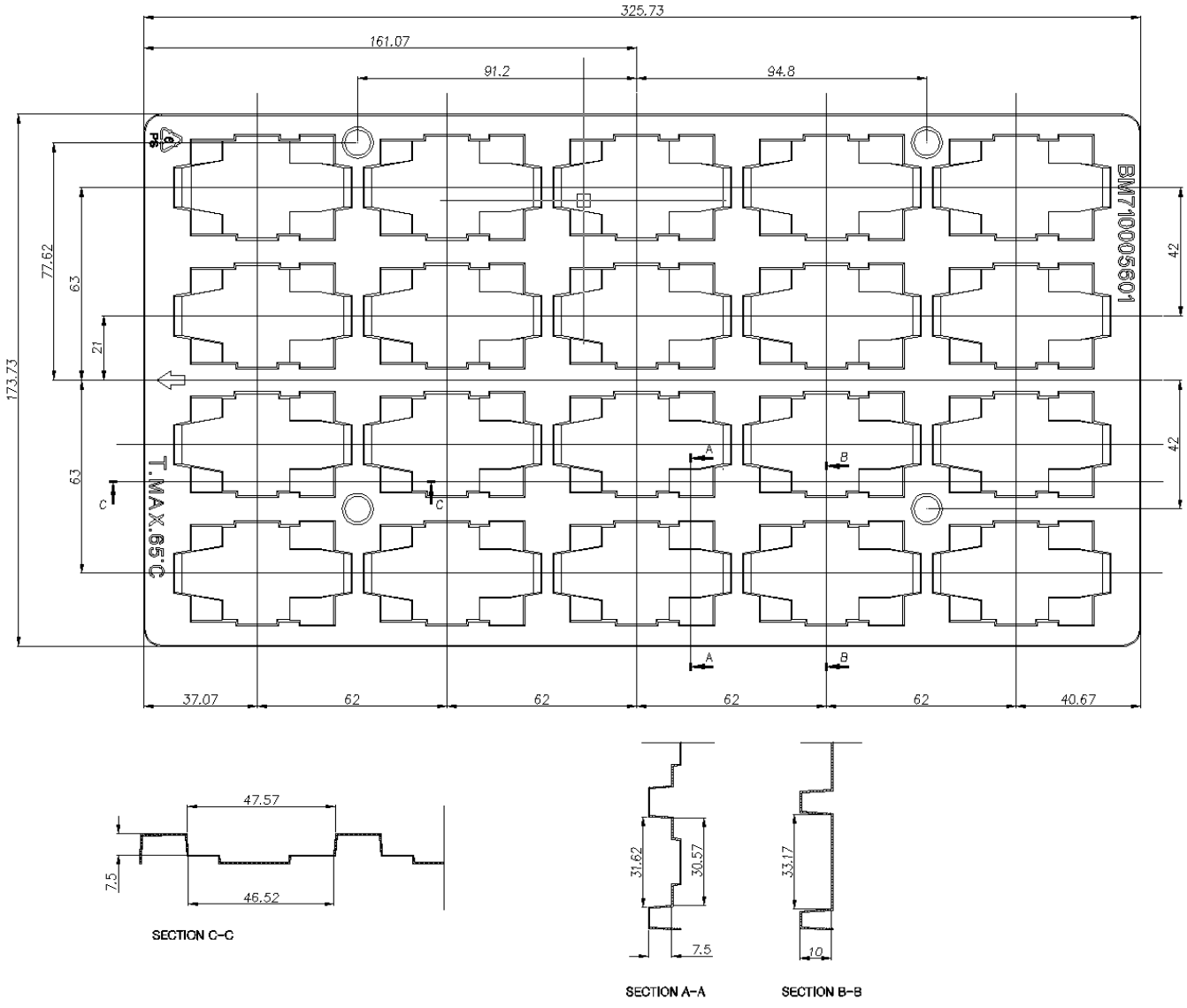
2.16 Packing system

The Telit UC864-K is packaged on trays. of Each tray contains 20 pieces with the following dimensions:

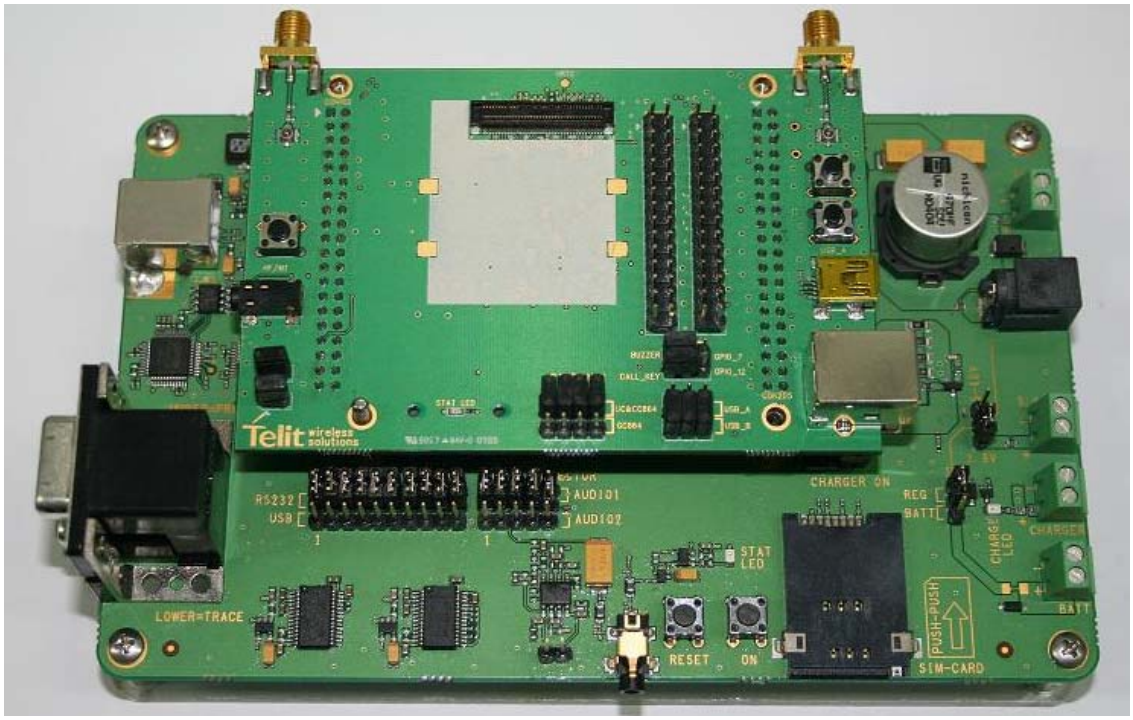


Size of the tray is: 325.73 x 173.73mm

NOTE: Trays can withstand the maximum temperature of 65° C.

3 Evaluation Kit

In order to assist you in the development of your **Telit UC864-K module** based application, Telit can supply the **EVK2 Evaluation Kit** with appropriate power supply, SIM card housing, RS 232 serial port level translator, direct UART connection, Handset, Headset and Hands-free (car kit) audio, antenna.
The **EVK2** provides a fully functional solution for a complete data/phone application.
The standard serial RS232 9 pin connector placed on the **Evaluation Kit** allows the connection of the **EVK2** system with a PC or other DTE.
The development of the applications utilizing the **Telit UC864-K module** must present a proper design of all the interfaces towards and from the module (e.g. power supply, audio paths, level translators), otherwise a decrease in the performances will be introduced or, in the worst case, a wrong design can even lead to an operating failure of the module.
In order to assist the hardware designer in his project phase, the **EVK2** board presents a series of different solutions, which will cover the most common design requirements on the market, and which can be easily integrated in the OEM design as building blocks or can be taken as starting points to develop a specific one.



Evaluation Kit

For a detailed description of the **Telit Evaluation Kit** refer to the documentation provided with the Telit **UC864-K** Hardware User Guide and EVK2 User Manual.

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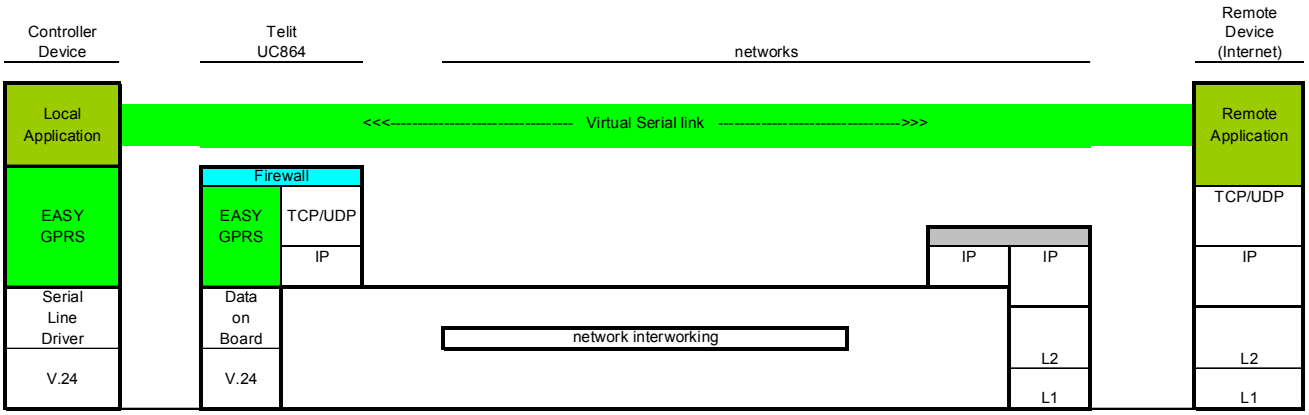
4 Software Features

4.1 Enhanced Easy GPRS Extension

4.1.1 Overview

The Easy GPRS feature allows the **Telit UC864-K** user to contact a device in internet and establish with it a raw data flow over the WCDMA and Internet networks.
This feature can be seen as a way to obtain a "virtual" serial connection between the Application Software on the Internet machine involved and the controller of the **Telit UC864-K** module, regardless of all the software stacks underlying.
An example of the protocol stack involved in the devices is reported:



This particular implementation allows to the devices interfacing to the Telit UC864-K module the use of the WCDMA and Internet packet service without the need to have an internal TCP/IP stack since this function is embedded inside the module.
Easy GPRS overcomes some of the known limitations of the previous implementation and implements some new features such as:

- Keep the WCDMA context active even after the closing of a socket, allowing the application to keep the same IP address;
- Also Mobile terminated (incoming) connections can be made, now it is possible to receive incoming TCP connection requests;

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- A new internal firewall has been implemented in order to guarantee a certain level of security on internet applications.

4.1.2 Easy GPRS definition

The Easy GPRS feature provides a way to replace the need of an Internet TCP/IP stack at the terminal equipment side. The steps that will be required to obtain a virtual serial connection (that is actually a socket) to the Internet peer are:

- configuring the WCDMA Access
- configuring the embedded TCP/IP stack behavior
- defining the Internet Peer to be contacted
- request the WCDMA and socket connections to be opened (host is connected)
- exchange raw data
- close the socket and WCDMA context

All these steps are achieved through AT commands.
As for common modem interface, two logical statuses are involved: command mode and data traffic mode.

- In Command Mode (CM), some AT commands are provided to configure the Data Module Internet stack and to start up the data traffic.
- In data traffic mode (Socket Mode, SKTM), the client can send/receive a raw data stream which will be encapsulated in the previously configured TCP / IP packets which will be sent to the other side of the network and vice versa. Control plane of ongoing socket connection is deployed internally to the module.

For more detailed information regarding WCDMA please consult AT Commands Reference Guide.

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5 AT Commands

The **Telit UC864-K module** can be driven via the serial interface using the standard AT commands[1].
The **Telit UC864-K module** is compliant with:

1. Hayes standard AT command set, in order to maintain the compatibility with existing SW programs.
2. 3gpp TS 27.007 specific AT command and WCDMA specific commands.
3. 3gpp TS 27.005 specific AT commands for SMS (Short Message Service) and CBS (Cell Broadcast Service)
4. FAX Class 1 compatible commands

Moreover the **Telit UC864-K module** supports also Telit proprietary AT commands for special purposes.
For a more information about AT commands supported by UC864-K modules please refer to document AT Commands Reference Guide..

[1] The AT is an ATTENTION command and is used as a prefix to other parameters in a string. The AT command combined with other parameters can be set up in the communications package or typed in manually as a command line instruction.

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6 Conformity Assessment Issues

The UC864-K module is assessed to the MIC(now KCC).

전자문서확인번호 TH8E-9BX3-VYK8-WBFC

정보통신기기인증서

Certificate of Information and Communication Equipment

인 증 의 종 류 : 형식등록(Type Registration)
Certification Type

상 호 또 는 성 명 : 주식회사 텔릿와이어리스솔루션즈
Trade Name or Applicant

기 기 의 명 칭 : 이동통신용 무선설비의 기기
Equipment Name

기본 모 델 명 : UC864-K
Basic Model Number of Equipment

파생 모 델 명 :
Series Model Number of Equipment

인 증 번 호 : TCS-UC864-K
Certification No

제 조 자 및 제 조 국 가 : 주식회사 텔릿와이어리스솔루션즈/한국
Manufacturer and Country of Origin

형 식 기 호 : IMT2-IO3TAS1942.8/1977.2T,2132.8/2167.2R0.2G7WD7W
Type Identification

인 증 연 월 일 : 2007년(Year) 07월(Month) 19일(Date)
Date of Certification

기 타 :
Others

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전 파 연 구 소

수신자 수신자 참조
(경유)
제목 정보통신기기 변경신고 처리결과 통보

1. 관련
   가. 「정보통신기기 인증규칙」 제8조(변경신고 등)
   나. 정보통신기기 인증사항변경(추가)신고서 2008-1577(2008.1.31.)등 2건
   다. 「정보통신기기 인증규칙」 제6조(심사)

2. 위 관련, 정보통신기기 변경신고에 대하여 심사한 결과 관련 규정에 적합하며 아래와 같이 변경처리 되었음을 알려 드립니다.

- HSM900 형 900MHz대 무선데이타통신용 무선설비의기기[주식회사호서텔넷]등 2건 (세부내역 붙임참조)

붙임 : 정보통신기기 변경신고 처리결과. 끝.

전파연구소장

수신자 주식회사호서텔넷 대표이사, 주식회사 텔릿와이어리스솔루션즈 대표이사

★통신서기 강선영 통신사무관 전결 02/05

협조자

시행 품질인증과-519 (2008.02.05.) 접수 ( )

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붙임

정보통신기기 인증사항 변경내역

(★:인증서 재교부)

번호	접수번호	인증자상호	인증번호	기기명칭	기본모델명	파생모델명	변경사항	변경전사항	변경후사항
2	2008-0-01584	주식회사 텔릿와이어리스솔루션즈	TCS-UC864-K	이동통신용 무선설비의 기기	UC864-K		부품 추가/변경/삭제 등 (선택적 사용)		

7 SAFETY RECOMMENDATIONS

READ CAREFULLY

Be sure the use of this product is allowed in the country and in the environment required. The use of this product may be dangerous and has to be avoided in the following areas:

- Where it can interfere with other electronic devices in environments such as hospitals, airports, aircrafts, etc
- Where there is risk of explosion such as gasoline stations, oil refineries, etc

It is responsibility of the user to enforce the country regulation and the specific environment regulation.

Do not disassemble the product; any mark of tampering will compromise the warranty validity.

We recommend following the instructions of the hardware user guides for a correct wiring of the product. The product has to be supplied with a stabilized voltage source and the wiring has to be conforming to the security and fire prevention regulations.

The product has to be handled with care, avoiding any contact with the pins because electrostatic discharges may damage the product itself. Same cautions have to be taken for the SIM, checking carefully the instruction for its use. Do not insert or remove the SIM when the product is in power saving mode.

The system integrator is responsible of the functioning of the final product; therefore, care has to be taken to the external components of the module, as well as of any project or installation issue, because the risk of disturbing the WCDMA network or external devices or having impact on the security. Should there be any doubt, please refer to the technical documentation and the regulations in force.

Every module has to be equipped with a proper antenna with specific characteristics. The antenna has to be installed with care in order to avoid any interference with other electronic devices and has to guarantee a minimum distance from the body (20 cm). In case of this requirement cannot be satisfied, the system integrator has to assess the final product against the SAR regulation.

The European Community provides some Directives for the electronic equipments introduced on the market. All the relevant information's are available on the European Community website:

http://europa.eu.int/comm/enterprise/rtte/dir99-5.htm

The text of the Directive 99/05 regarding telecommunication equipments is available, while the applicable Directives (Low Voltage and EMC) are available at:

http://europa.eu.int/comm/enterprise/electr_equipment/index_en.htm

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7.1 Contact Information, Support

Our aim is to make this guide as helpful as possible. Keep us informed of your comments and suggestions for improvements.

For general contact, technical support, report documentation errors and to order manuals, contact your regional Technical Support Center at:

- TS-EMEA@telit.com,
- TS-AMERICAS@telit.com,
- TS-APAC@telit.com

Or use:

http://www.telit.com/en/products/technical-support-center/contact.php

Telit appreciates feedback from the users of our information.

Technical documentation: available for download into the Website www.telit.com >Products >UMTS/HSDPA > selected model.

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List of acronyms

ACM	Accumulated Call Meter
ASCII	American Standard Code for Information Interchange
AT	Attention commands
CB	Cell Broadcast
CBS	Cell Broadcasting Service
CCM	Call Control Meter
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CMOS	Complementary Metal-Oxide Semiconductor
CR	Carriage Return
CSD	Circuit Switched Data
CTS	Clear To Send
DAI	Digital Audio Interface
DCD	Data Carrier Detected
DCE	Data Communications Equipment
DRX	Data Receive
DSR	Data Set Ready
DTA	Data Terminal Adaptor
DTE	Data Terminal Equipment
DTMF	Dual Tone Multi Frequency
DTR	Data Terminal Ready
EMC	Electromagnetic Compatibility
ETSI	European Telecommunications Equipment Institute
FTA	Full Type Approval (ETSI)
HF	Hands Free
HSDPA	High Speed Downlink Packet Access
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IRA	International Reference Alphabet
ITU	International Telecommunications Union
IWF	Inter-Working Function
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LF	Linefeed
ME	Mobile Equipment
MMI	Man Machine Interface
MO	Mobile Originated
MS	Mobile Station
MT	Mobile Terminated

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OEM	Other Equipment Manufacturer
PB	Phone Book
PDU	Protocol Data Unit
PH	Packet Handler
PIN	Personal Identity Number
PLMN	Public Land Mobile Network
PUCT	Price per Unit Currency Table
PUK	PIN Unblocking Code
RACH	Random Access Channel
RLP	Radio Link Protocol
RMS	Root Mean Square
RTS	Ready To Send
RI	Ring Indicator
SCA	Service Center Address
SIM	Subscriber Identity Module
SMD	Surface Mounted Device
SMS	Short Message Service
SMSC	Short Message Service Center
SS	Supplementary Service
TIA	Telecommunications Industry Association
UDUB	User Determined User Busy
UMTS	Universal Mobile Telecommunications System
USB	Universal Serial Bus
USSD	Unstructured Supplementary Service Data
WCDMA	Wideband Code Division Multiple Access
3GPP	3rd Generation Partnership Project

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8 Document Change Log

Revision	Date [dd/mm/yyyy]	Changes
0	08/05/2009	Initial issue

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